

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A method for fining a metal surface, comprising a process for forming crystal grains having sizes less than $1\text{ }\mu\text{m}$ at the surface of a metal product by means of projecting or peening shots or projectiles to the surface while a power per unit of area of the surface is controlled at a predetermined value, wherein the predetermined value is greater than $11\text{ KJ/sec}\cdot\text{mm}^2$.

2. (Currently amended) **[[A]]** The method for fining a metal surface according to claim 1, wherein the shots or projectiles are made from high carbon steel, ferrous metallic glass, or stainless steel, and the diameters of the shots or projectiles are $30\text{ }\mu\text{m}$ to $2000\text{ }\mu\text{m}$.

3. (Cancelled).

4. (Currently amended) **[[A]]** The method for fining a metal surface according to ~~any of claims~~ claim 1, ~~2, and 3;~~ wherein the process for projecting or peening shots or projectiles to the surface is ~~carried~~ carried out while the temperature of the metal surface is controlled to be between room temperature and -150°C .

5-6. (Cancelled).

7. (Currently amended) A metal product having surfaces hardened by the method for fining a metal surface according to ~~any of claims 1-6~~ claim 1.

8. (New) A method for fining a metal surface, comprising a process for forming crystal grains having sizes less than $1\text{ }\mu\text{m}$ at the surface of a metal product by means of projecting or peening shots or projectiles to the surface while a power per unit

of area of the surface is controlled at a predetermined value, wherein the unit area is calculated by multiplying a contact surface of a projectile or a shot by a number of the shots or projectiles.

9. (New) The method for fining a metal surface according to claim 8, wherein the unit area is calculated by subtracting overlapped areas that are calculated based on the number of shots or projectiles that have their contact surfaces overlap from a sum of the contact surfaces.

10. (New) The method for fining a metal surface according to claim 8 or 9, wherein the shots or projectiles are made from high carbon steel, ferrous metallic glass, or stainless steel, and the diameters of the shots or projectiles are 30 μm to 2000 μm .

11. (New) The method for fining a metal surface according to claim 8 or 9, wherein the process for projecting or peening shots or projectiles to the surface is carried out while the temperature of the metal surface is controlled to be between room temperature and -150°C .

12. (New) A metal product having surfaces hardened by the method for fining a metal surface according to claim 8 or 9.